REMARKS

The present Amendment amends claims 1-12. Therefore, the present application has pending claims 1-12.

Claims 1-4, 9 and 12 stand objected to due to informalities noted by the Examiner in paragraph 4 of the Office Action. Various amendments were made throughout claims 1-4, 9 and 12 to correct the informalities noted by the Examiner. Therefore, this objection is overcome and should be withdrawn.

Claims 10 stands rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. Amendments were made to claim 10 to bring it into conformity with the requirements of 35 USC §112, second paragraph. Therefore, Applicants submit that this rejection is overcome and should be withdrawn.

Specifically, amendments were made to claim 10 to overcome the objections noted by the Examiner in paragraph 6 of the Office Action.

The Examiner's cooperation is respectfully requested to contact Applicants' Attorney by telephone should any further indefinite matter be discovered so that appropriate amendments may be made.

Applicants acknowledge the Examiner's indication in paragraph 12 of the Office Action that claims 4 and 12 would be allowable if rewritten to overcome the objections set forth in paragraph 3 of the Office Action. Various amendments were made to claims 4 and 12 to overcome the objections noted by the Examiner. Therefore, claims 4 and 12 are now allowable as indicated by the Examiner.

Claims 1, 2, 5, 8 and 9 stand rejected under 35 USC §103(a) as being unpatentable over Mustajarvi (U.S. Patent No. 6,661,782) in view of LaPorta (U.S. Patent No. 6,654,359); claim 6 stands rejected under 35 USC §103(a) as being unpatentable over LaPorta in view of Haumount (U.S. Patent No. 6,233,458); claim 7 stands rejected under 35 USC §103(a) as being unpatentable over LaPorta in view of Haumount and further in view of Dynarski (U.S. Patent No. 6,272,129); and claim 10 stands rejected under 35 USC §103(a) as being unpatentable over Mustajarvi and LaPorta and further in view of Schmidt (U.S. Patent No. 6,682,416). These rejections are traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-3 and 5-11 are not taught or suggested by Mustajarvi, LaPorta, Haumount, Dynarski and Schmidt whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to the claims so as to more clearly recite that the present invention is directed to a mobile IP network system, a method of switching a connection for communication between a mobile station connected to any one of a plurality of radio access network via a radio link and a plurality of packet nodes connected to an IP network, and a base station controller. Particularly, according to the present invention a plurality of radio access networks are provided each being connected to radio stations via radio links and then IP network is provided to which a home agent node and a plurality of packet nodes each for transferring IP packets destined for one of the mobile station and received from the home agent node to one

of the radio access networks. Each of the radio access network has at least one base station controller and at least radio base station which is connected to the base station controller to perform radio communication with a plurality of mobile stations. Further, each of the base station controllers is connected to the plurality of packet nodes through a network, receives an identifier of a previous packet node from another base station controller to one of the mobile stations moved into a control area of the base station controller from a control area from the another base station controller belonging to another radio access network and selects either the previous packet node which is communicating IP packets for the moved mobile station with the home agent node of a preliminarily designated specific packet node in accordance with a communication state of the moved mobile station.

Thus, according to the present invention the above allows for the selective carrying out of IP packet communications for the moved mobile station between the base station controller and the previous packet node using a previous identifier of a logical connection having been established between the previous packet node and the mobile station or IP packet communication between the base station controller and the specific packet node using an identifier of a new logical connection established between the specific packet node the moved mobile station, after performing a registration procedure between moved mobile station and the home agent node depending the communication state of the mobile station.

As illustrated in Fig. 10 of the present application, the present invention as recited in the claims resides in that each of the "base station controllers" (7A, 7B, 7C) in the radio access network can selectively communicate with one of the plurality of

"packet nodes" (3A, 3B) through a network. Thus, each of the base station controllers can receive an identifier of a previous packet node (3A) from another base station controller (7B) when one of the mobile stations moved into a control area of the base station controller (7C) from a control area of the another base station controller (7B), and select either the previous packet node (3A) or a preliminarily designated specific packet node (3B) in accordance with a communication state of the moved mobile station.

Further, according to the present invention as recited in the claims, communications between the base station controller and the packet nodes can be selectively carried out, depending on the communication state of the mobile station. Thus, according to the present invention as recited in the claims, IP packet communication for the moved mobile station between the base station controller (7C) and the "previous packet node" (3A) can be carried out using a previous identifier of a logical connection having been established between the previous packet node and the mobile station.

Alternatively, according to the present invention as recited in the claims, IP packet communication between the base station controller (7C) and the "specific packet node" (3B) can be carried out using an identifier of a new logical connection established between the specific packet node (3B) and the moved mobile station, after performing a registration procedure between the moved mobile station and a home agent.

According to the present invention, when the moved mobile station is in a busy state for communicating IP packets with a correspondent apparatus, by

communicating IP packets for the mobile station with the previous packet node using a previous identifier of the logical connection having been established between the previous packet node and the mobile station, dropout of IP packets can be prevented due to the registration procedure from occurring during the communication.

The above described features of the present invention are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention are not taught or suggested by Mustajarvi, LaPorta, Haumount, Dynarski and Schmidt whether taken individually or in combination with each other as suggested by the Examiner.

Mustajarvi as discussed in the Remarks of the July 30, 2004 Amendment, said Remarks being incorporated herein by reference, teaches a procedure for establishing a logical link when a mobile station is connected to a new base station controller. However, Mustajarvi fails to teach or suggest numerous features of the present invention as now more clearly recited in the claims. In fact, the Examiner readily admits that Mustajarvi:

> "does not explicitly disclose selecting the previous packet node in accordance with a communication state of the moved mobile station, thereby to carry out IP packet communication for the mobile station between the controller and the previous node using a previous identifier of a logical connection having been established between the previous node and the mobile station".

Thus, Mustajarvi fails to teach or suggest an IP network to which a home agent node and a plurality of packet nodes each for transferring IP packets destined

for one of the mobile stations and received from the home agent node to one of the radio access networks are connected as recited in the claims.

Further, Mustajarvi fails to teach or suggest that each of the base station controllers selects either the previous packet node which is communicating IP packets for the moved mobile station with the home agent node or a preliminarily designated specific packet node in accordance with a communication state of the moved mobile station, thereby to selectively carry out IP packet communication for the moved mobile station between the base station controller and the previous packet node using a previous identifier of a logical connection having been established between the previous packet node and the mobile station or IP communication between the base station controller and the specific packet node, using an identifier of a moved logical connection established between the specific packet node and the moved mobile station, after performing a registration procedure between the moved mobile station and the home agent node, depending on the communication state of the mobile station as recited in the claims.

The above noted deficiencies of Mustajarvi are also evident in each of the other references of record, namely LaPorta, Dynarski, Haumount and Schmidt, whether taken individually or in combination with each other as suggested by the Examiner.

Particularly, Applicants note that LaPorta fails to teach or suggest in Fig. 2 thereof a component corresponding to the base station controller of the present invention as recited in the claims.

LaPorta proposes to omit the registration procedure of care-of IP address when a mobile station moves within a local subnet to which a home agent is connected as a root router. In LaPorta, when a mobile station moves and makes a hand-over from one base station in a subnet to a base station in another subnet, a procedure for establishing a new logical connection is carried out according to "mobile IP".

For example, in col. 8, line 65 to col. 9, line 15, LaPorta describes that "when a mobile device 114 changes its position from a base station associated with a first domain to a base station associated with a second domain, packets are forwarded to the mobile device in the new (second) domain, from the home agent, using a protocol for packet tunneling, one such protocol being mobile IP. For example, the home agent 152 at the root router 150 in the home domain (Domain1) begins encapsulating packets and tunnels them to the new care-of address obtained by the mobile device when handed off to a Domain2 base station".

Further, in col. 10, lines 50-56, LaPorta describes that "in accordance with step 180, host based routing in the foreign domain is then established using a specialized path setup scheme. Once a care-of address is acquired and the path setup scheme is established, packets are destined for the mobile device are tunneled to the mobile device's co-located care-of address from the home domain root router".

From the above, it is apparent that LaPorta performs notification of care-of address to the home agent (registration procedure) whenever inter-domain handover occurs, so that the home domain root router (home domain) can tunnels packets

destined for the mobile device to the foreign domain where the mobile device moved into.

Thus, as is quite clear from the above, LaPorta suffers from the same deficiencies as Mustajarvi relative to the features of the present invention as recited in the claims.

Therefore, the combination of Mustajarvi and LaPorta fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1, 2, 5, 8 and 9 as being unpatentable over Mustajarvi in view of LaPorta is respectfully requested.

The above noted deficiencies of LaPorta are also evident in Haumount. Haumount was merely relied upon by the Examiner for alleged teaching of utilizing an identifier of the logical connection. However, at no point is there any teaching or suggestion in Haumount of the above described features of the present invention wherein a home agent node is provided and a registration procedure is performed with respect to the moved mobile station and the home agent node.

Thus, combining LaPorta and Haumount in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Therefore, reconsideration and withdrawal of the 35 USC §103(a) rejection of claim 6 as being unpatentable over LaPorta in view of Haumount is respectfully requested.

Dynarski suffers from the same deficiencies relative to the features of the present invention as recited in the claims as LaPorta and Haumount. Dynarski is

merely relied upon for an alleged teachings of closing upon detection that the data transmission and reception ceased, the first logical connection in establishing the new logical connection. However, at no point is there any teaching or suggestion in Dynarski of the above described features of the present invention regarding the home agent and the functions that are performed relative to the home agent as in the present invention.

Thus, combining the teachings of LaPorta, Haumount and Dynarski in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Therefore, reconsideration and withdrawal of the 35 USC §103(a) rejection of claim 7 as being unpatentable over LaPorta in view of Haumount and Dynarski is respectfully requested.

Schmidt was merely relied upon by the Examiner for an alleged teaching of a base station controller having a control unit and means for notifying a base station controller in one of the radio access network of identification information.

Thus, combining the teachings of Mustajarvi, LaPorta and Schmidt in the manner suggested by the Examiner in the Office Action still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Therefore, reconsideration and withdrawal of the 35 USC §103(a) rejection of claim 10 as being unpatentable over Mustajarvi, LaPorta and Schmidt is Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

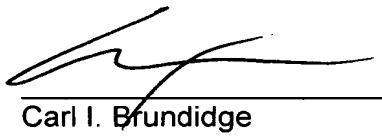
The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-3 and 5-11.

In view of the foregoing amendments and remarks, applicants submit that claims 1-12 are in condition for allowance. Accordingly, early allowance of claims 1-12 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (520.38794X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.



Carl I. Brundidge
Registration No. 29,621

CIB/jdc
(703) 684-1120